# Course of Study Computational Science and Engineering (Study Cohort w14)

Sample course plan E  Bachelor Computational Science and Engineering (IIWBS)
Specialisation Engineering Sciences

| LP | Semester 1 | Form | Hrs/wk | Semester 2 | Form | Hrs/wk | Semester 3 | Form | Hrs/wk | Semester 4 | Form | Hrs/wk | Semester 5 | Form | Hrs/wk | Semester 6 | Form | Hrs/wk |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1–6 | **Discrete Algebraic Structures** | | | **Electrical Engineering II: Alternating Current Networks and Basic Devices** | | | **Engineering Mechanics I** | | | **Engineering Mechanics II** | | | **Seminars Computer Science and Mathematics** | | | **Stochastics** | | |
| | Discrete Algebraic Structures | VL | 2 | Electrical Engineering II: Alternating Current Networks and Basic Devices | VL | 3 | Engineering Mechanics I | VL | 3 | Engineering Mechanics II | VL | 3 | Seminar Computational Engineering Science | SE | 2 | Stochastics | VL | 2 |
| | Discrete Algebraic Structures | UE | 2 | Electrical Engineering II: Alternating Current Networks and Basic Devices | UE | 2 | Engineering Mechanics I | UE | 2 | Engineering Mechanics II | UE | 2 | Seminar Computational Mathematics/Computer Science | SE | 2 | Stochastics | UE | 2 |
| | | | | | | | | | | | | | Seminar Engineering Mathematics/Computer Science | SE | 2 | | | |
| 7–12 | **Procedural Programming** | | | **Objectoriented Programming, Algorithms and Data Structures** | | | **Numerical Mathematics I** | | | **Signals and Systems** | | | **Introduction to Control Systems** | | | **Electrical Engineering IV: Transmission Lines and Research Seminar** | | |
| | Procedural Programming | VL | 1 | Objectoriented Programming, Algorithms and Data Structures | VL | 4 | Numerical Mathematics I | VL | 2 | Signals and Systems | VL | 3 | Introduction to Control Systems | VL | 2 | Transmission Line Theory | VL | 2 |
| | Procedural Programming | UE | 1 | Objectoriented Programming, Algorithms and Data Structures | UE | 1 | Numerical Mathematics I | UE | 2 | Signals and Systems | HÜ | 1 | Introduction to Control Systems | UE | 2 | Research Seminar Electrical Engineering, Computer Science, Mathematics | SE | 2 |
| | Procedural Programming | PR | 2 | | | | | | | | | | | | | | Transmission Line Theory | HÜ | 2 |
| 13–18 | **Electrical Engineering I: Direct Current Networks and Electromagnetic Fields** | | | **Logic, Automata and Formal Languages** | | | **Computer Engineering** | | | **Embedded Systems** | | | **Electrical Engineering III: Circuit Theory and Transients** | | | **Materials in Electrical Engineering** | | |
| | Electrical Engineering I: Direct Current Networks and Electromagnetic Fields | VL | 3 | Logic, Automata Theory and Formal Languages | VL | 2 | Computer Engineering | VL | 3 | Embedded Systems | VL | 3 | Circuit Theory | VL | 3 | Materials in Electrical Engineering | VL | 2 |
| | Electrical Engineering I: Direct Current Networks and Electromagnetic Fields | UE | 2 | Logic, Automata Theory and Formal Languages | UE | 2 | Computer Engineering | UE | 1 | Embedded Systems | UE | 1 | Circuit Theory | UE | 2 | Materials in Electrical Engineering | UE | 2 |
| | | | | | | | | | | | | | | | | Electrotechnical Experiments | VL | 1 |
| 19–30 | **Mathematics I** | | | **Foundations of Management** | | | **Computernetworks and Internet Security** | | | **Graph Theory and Optimization** | | | **Electrical Power Systems I** | | | **Bachelor Thesis** | | |
| | Linear Algebra I | VL | 2 | Introduction to Management | VL | 4 | Computer Networks and Internet Security | VL | 3 | Graph Theory and Optimization | VL | 2 | Electrical Power Systems I | VL | 3 | | | |
| | Linear Algebra I | UE | 1 | Project Entrepreneurship | PBL | 2 | Computer Networks and Internet Security | UE | 1 | Graph Theory and Optimization | UE | 2 | Electrical Power Systems I | HÜ | 2 | | | |
| | Linear Algebra I | HÜ | 1 | | | | | | | | | | | | | | | | |
| | Analysis I | VL | 2 | | | | | | | | | | | | | | | | |
| | Analysis I | UE | 1 | | | | | | | | | | | | | | | | |
| | Analysis I | HÜ | 1 | | | | | | | | | | | | | | | | |
| | | | | **Mathematics II** | | | **Mathematics III** | | | **Theoretical Electrical Engineering I: Time-Independent Fields** | | | | | | | | |
| | | | | Linear Algebra II | VL | 2 | Analysis III | VL | 2 | Theoretical Electrical Engineering I: Time-Independent Fields | VL | 3 | | | | | | |
| | | | | Linear Algebra II | UE | 1 | Analysis III | UE | 1 | Theoretical Electrical Engineering I: Time-Independent Fields | UE | 2 | | | | | | |
| | | | | Linear Algebra II | HÜ | 1 | Analysis III | HÜ | 1 | | | | | | | | | |
| | | | | Analysis II | VL | 2 | Differential Equations 1 | VL | 2 | | | | | | | | | |
| | | | | Analysis II | HÜ | 1 | Differential Equations 1 | UE | 1 | | | | | | | | | |
| | | | | Analysis II | UE | 1 | Differential Equations 1 | HÜ | 1 | | | | | | | | | |

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Nontechnical Complementary Courses for Bachelors (from catalogue) - 6LP

The choice of courses from the catalogue is flexible (depends on the semestral work load), provided the necessary number of required credits is reached.